CLAIMS

1. An electronic device cooling apparatus comprising:

a primary cooling unit which is disposed in close proximity with an electronic device so as to face a surface thereof;

an auxiliary cooling unit which is disposed in close proximity with the electronic device so as to face a surface thereof; and

a controller which drives at least one of the primary cooling unit and the auxiliary cooling unit so as to cool the electronic device.

2. The electronic device cooling apparatus according to claim 1, wherein the primary cooling unit is based on a cooling mechanism different from that of the auxiliary cooling unit.

3. The electronic device cooling apparatus according to claim 1, wherein the cooling capacity of the auxiliary cooling unit per unit time is higher than that of the primary cooling unit.

4. The electronic device cooling apparatus according to any one of claims 1 through 3, wherein the auxiliary cooling unit faces a surface of the electronic device different from a surface that the primary cooling unit faces.

5. The electronic device cooling apparatus according to any one of claims 1 through 4, wherein the auxiliary cooling unit is provided with a cooling nozzle, and

the controller controls a coolant introduced in the cooling nozzle and drives the auxiliary cooling unit by delivering a jet of coolant from the cooling nozzle.

6. The electronic device cooling apparatus according to any one of claims 1 through 5, further comprising a temperature measuring unit which measures the temperature of a surface of the electronic device, wherein

when a rise in the measured temperature per unit time exceeds a predetermined threshold value, the controller drives the auxiliary cooling unit to cool the electronic device.

7. An electronic device cooling apparatus comprising:

a primary cooling unit which is disposed in close proximity with an electronic device so as to face a predetermined surface thereof;

an auxiliary cooling unit which delivers a jet of coolant to the electronic device via a through hole provided in a substrate that faces a surface of the electronic device different from the predetermined surface; and

a controller which drives at least one of the primary cooling unit and the auxiliary cooling unit so as to cool the electronic

device.

8. An electronic device cooling apparatus comprising:

a heat dissipating mechanism which is disposed in close proximity with an electronic device so as to face a predetermined surface thereof and which dissipates heat generated from the predetermined surface;

an auxiliary cooling unit which delivers a jet of coolant to the electronic device via a through hole provided in a substrate that faces a surface of the electronic device different from the predetermined surface; and

a controller which drives the auxiliary cooling unit so as to cool the electronic device.

9. An electronic device cooling method comprising:

measuring the temperature of a surface of an electronic device;

determining whether a rise in the temperature of the surface of the electronic device per unit time exceeds a predetermined threshold value as a result of time variation; and

spraying the electronic device with a jet of coolant when the rise exceeds the threshold value.

10. An electronic device cooling method comprising:

measuring the temperature of a surface of an electronic device;

determining whether the measured temperature exceeds a first predetermined threshold value;

cooling the surface of the electronic device by a first cooling unit when the measured temperature exceeds the first predetermined threshold value;

determining whether a rise in the temperature of the surface of the electronic device per unit time exceeds a second predetermined threshold value as a result of time variation; and

cooling the surface of the electronic device by a second cooling unit when the rise exceeds the second predetermined threshold value.

11. A computer program product for controlling the cooling of an electronic device, comprising:

a measuring module which measures the temperature of a surface of the electronic device;

a determining module which determines whether a rise in the temperature of the surface of the electronic device per unit time exceeds a predetermined threshold value as a result of time variation; and

a driving module which drives a cooling nozzle when the rise exceeds the predetermined threshold value so as to deliver a jet of coolant to the electronic device.

12. A computer program product for controlling the cooling of an electronic device, comprising: a measuring module which

measures the temperature of a surface of the electronic device;

a first determining module which determines whether the measured temperature exceeds a first predetermined threshold value;

a first cooling module which causes a first cooling unit to cool the surface of the electronic device when the measured temperature exceeds the first predetermined threshold value;

a second determining module which determines whether a rise in the temperature of the surface of the electronic device per unit time exceeds a second predetermined threshold value as a result of time variation; and

a second cooling module which causes a second cooling unit to cool the surface of the electronic device when the rise exceeds the second predetermined threshold value.

13. A computer readable recording medium having embodied thereon a computer program product for controlling the cooling of an electronic device, the computer program product comprising:

a measuring module which measures the temperature of a surface of the electronic device;

a determining module which determines whether a rise in the temperature of the surface of the electronic device per unit time exceeds a predetermined threshold value as a result of time variation; and

a driving module which drives a cooling nozzle when the rise exceeds the predetermined threshold value so as to deliver a jet

of coolant to the electronic device.

14. A computer readable recording medium having embodied thereon a computer program product for controlling the cooling of an electronic device, the computer program product comprising:

a measuring module which measures the temperature of a surface of the electronic device;

a first determining module which determines whether the measured temperature exceeds a first predetermined threshold value;

a first cooling module which causes a first cooling unit to cool the surface of the electronic device when the measured temperature exceeds the first predetermined threshold value;

a second determining module which determines whether a rise in the temperature of the surface of the electronic device per unit time exceeds a second predetermined threshold value as a result of time variation; and

a second cooling module which causes a second cooling unit to cool the surface of the electronic device when the rise exceeds the second predetermined threshold value.